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The Use Of Coastal Potency In Learning Mathematics To Enhance Social Skills Of Junior Secondary School Students

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Abstract

Social skills of junior secondary school students in coastal area are still considered low due to the lack of interaction in mathematics learning. Interaction in coastal class can be done by using coastal potency problem. The objective of this study is to enhance students' social skills by using coastal potency in learning of mathematics (CCTL). Junior secondary school sample is randomly selected from 10 classes in SMPN 5 Kendari. Two classes are randomly selected from the school sample, experiment class (CCTL) and control class (conventional teaching and learning, CVTL). Instrument that was used in this research is scale of social skills. Data are analyzed by using a qualitative-descriptive technique, one-sample T test, and independent-sample T test. Based on the result of data analysis, it can be concluded that the use of CCTL is significantly better than CVTL in enhancing the students' social skills, however it's still in the medium category.

Keywords: coastal potency, social skills, coastal potency-based contextual teaching and learning (CCTL)

INTRODUCTION

Background

In standard of graduate competence of secondary level of education it is mentioned that student can communicate and interact effectively and kindest; and appreciate the existence of different idea (Tim Pustaka Yustisia, 2007). It means that learning is not only aim to that student got the concept but also it has ability of interaction with others effectively and kindest. This purpose is reachable when student is trained to communicates, arises opinion, submits question, and esteems different idea wisely, effectively, and kindest.

Students' communication skill depends on the matter or the problem teachers' given or submitted by student itself. If the problem was everyday problem, related to life, or students perceivable (contextual problem), hence presentation of the problem can make student interested and challenged to arise idea for looking the solution. But, if the problem is not a contextual problem, hence uncertainty student can comprehend it or arises opinion to look for the solution. It is means that using costal-contextual problem for student in coastal area is very importance in learning and so in learning mathematics.

Using contextual problem in learning mathematics will please for both student and teacher during learning process and can overcome various causes the low of

students' mathematical cognitive achievement and non cognitive such as students do not like mathematics; they are not motivated enough; varied, mainly weak prior knowledge; and poor abilities (Munkacsy, 2007). This interesting and pleasing of the learning process can make student communicate and interact easily with teacher, other student, and mathematical subject matter. Moreover, student can also exercise to share and to give a solution or an expostulation about the process or the result of problematic solution. This activity can increase the skills of student to interact and to adapt harmoniously in their around. This skills is recognized as social skill. According to Muijs and Reynolds (2008), lack of students' social skill will affect at the low of students' achievement, tends to solitude and shows low of self-esteem, and there possibility drop-out from school. Based on data Depdiknas on 2002, in national storey, school break number in junior secondary school students in the year 2001/2002 was 3,50%. The data also lays open that child of age 13-15 years has not got education service in junior secondary school still enough heights (25,66%).

Improving social skill is very important when student enters age junior secondary school. At this age, student enters a period of transition in its social interaction and starts competing in so many activity to reach a higher achievement in their study. This thing is influential to develop social skill and can bother social development and the emotion. Student tending to stands apart and socialization unable to tend to rigid and shows some social behaviours digressing when interaction with others such as desire enforcing, hardness, adolescent mischief, destroys, gang fight, criminal, and school dropt-out. When student doesn't obtain the corrected learning, they can do deviation of social behaviour like hardness, desire enforcing, ruining, conflict between groups, and gang-fight as which during the time happened and we to witness every day in our life. Learning of mathematics which only make account of matter domination without inculcating mathematics characteristic having important values like consistency and systematic cause the study unable to have a meaning for uplifting of student' social skills in interaction with others. Therefore, to lessen social behaviour symptom digressing, the coastal area students need to be trained by using coast contextual teaching and learning (CCTL).

Many researches indicated that usage of contextual problem: can increase students' elementary school result achievement, positive attitude for mathematics, like to learn individually and teams, self confidence and not easy to be hopeless (Heruman, 2003); increases quality of communications for pre-teacher student (Darta, 2004); the contextual-based teaching is relevant and a preferred approach in a non-urban setting such a situation encourages active learning environment which in turn generates better mathematical understanding by the students (Sauian, 2004); and development of everyday communication skills is an important part of mathematics learning (Munkacsy, 2007). According to Munkacsy (2007), the students problem in learning mathematics come from the lack of communication skills and social skills. So, we should to help them in this area by using the problem which they know. It is a good idea if we teach mathematics for students in coastal area by using problem of coastal potency. By this condition, the students have knowledge, awareness, desire to break it, and copes to preserve coastal potency area resources which there are still.

By using coast contextual teaching and learning that exploiting coastal area potency as starting points in learning mathematics or in the form of the story problem of mathematics or presented in mathematics student worksheets in junior secondary school, student can communicate, recognize, comprehends, realizes, and becomes a good problem solver for related of coastal area potency. This article explained about the use of coastal potency in learning mathematics to enhance students' social skill.

Formulation of the problem

Based on the explanation, the problem focus in this study is formulated as follows: "How to use coastal potency in learning of mathematics so that it has an effect to enhance students' social skills in coastal area?".

Objective and Benefit of the Research

The objective of this study is to analysis the using of coastal potency in learning mathematics and its' effect in enhancing social skill of students' in coastal area. The result of this study earns is of benefit to teacher, student, researcher, and takes policy such as: become alternative model in learning mathematics to enhance students' social

skills and the students know the coastal potency problem; become a reference for specifically researcher and gives understanding to government policy to taker a more comprehendingly that improvement of quality of learning mathematics is not only pointed for understanding of concept but also students' social skill and became equally in all of Indonesia region.

RESEARCH METHODS

Research Design

This research applied two approaches, those are research and development (R & D) (Creswell, 1994) applied to develop coastal potency problem which are using in learning of mathematics by using coastal-potency-based contextual teaching and learning (CCTL) and research approach of experiment to test the effect of coastal potency problem and CCTL approach to enhance students' social skill. This affectivity test measured based on significant enhancing students' social skills after getting CCTL approach with coastal potency problem and its difference with enhancing students' social skills after getting conventional approach (CVTL).

At experiment approach, research design applied is factorial design of 2×3, that is two study approaches (CCTL and CVTL) and three group of students mathematical prior knowledge (height, middle, and low). Moreover, the experiment design is applied pretest-posttest control group design (Creswell, 1994).

Subject and Research Location

The research is done in SMPN 5 Kendari on July 2011. Two classes are randomly selected from 10 classes (experiment class and control class). Students in experiment class are treated in the way of CCTL approach with coastal potency problem and students in control class are treated in the way of CVTL.

Research Instrument and Technique of Data Analysis

Some instruments are used including pre-test and posttest of social skills scale. The social skills scale have five dimensions based on Gresham, Sugai, and Horner (2001) (Bremer and Smith, 2004) such as: (a) peer relational skills, (b) self-management skills, (c) academic skills, (d) compliance skills, and (e) assertion skills. The result of

consideration analysis of expert judgment indicates that this instrument and research peripheral are good enough to be used in research. The result of try out of social skills scale indicates that fifty-sixth items of scale test are valid with medium reliability.

Data which has been collected is analyzed by using qualitative-descriptive analysis, one-sample T test, and independent-sample T test at level significance α = 0,05. Data analyzed is in normalized (N-Gain) form what introduced by Hake and simply is absolute gain is divided with gain maximum that is possible (ideal).

$$g = \frac{posttest\ \ score\ -\ \ pretest\ \ score}{\max imal\ \ ideal\ \ score - pretest\ \ score}\ .$$ (Meltzer, 2002)

RESULTS AND DISCUSSION

1. Using Coastal Problem in Learning of Mathematics (CCTL)

In this study, learning of mathematics is started by using coastal problem and using CCTL approach. CCTL is a contextual teaching and learning approach that in processing is started by presentation of coastal area problem to be finalized individually in each group then solution of problem submitted at class discussion. This interaction process is not easy followed by student junior secondary school in seaboard. The lack of students' prior social skills results student to need a more regular is guided (scaffolding) to comprehend problem, make communication in solving problem, even in operating mathematics algebra. This condition requires teacher hard work to master problems and problem finishing process of the students worksheets, masters syntax of the learning approach, masters class, haves a command over, and has various techniques is teaching and tuition to student to face various situation that emerges in class junior secondary school coastal area. Interest of student to coastal area problem presented must always becomes teacher reference to build communications which are positive with student. The communications can fluent of problem solving process and cultivation of mathematics concepts studied to student. This kinds of communication can make students' interactive effectively to enhance their social skills. Combs & Slaby (1997) argue that social skills is the ability of he students to interact with each others in social

context by specific way so it can be acceptable or profit values for them, quality live, and others.

2. Students' Social Skills

a. Enhancing Students' Social Skills Based on Learning Approach

Data of students' social skills were collected and analyzed to know students' social skills before and after teaching and learning. Result of descriptive analysis indicates that based on group of research approach, both group of good student getting study of CCTL and also getting study of CVTL has initial ability of same relative social skills. But after study, the average of students' social skills getting CCTL approach 202.953 and in higher significance than getting CVTL approach which only 197.909. Enhancing of students' social skills taught with CCTL approach is 16.8% and bigger than getting CVTL approach which only 10.9%.

Signifinance tes result of enhancing of students' social skills (N-Gain) based on group of MPK and teaching and learning approach showed that there are significance enhancing of students' social skills for all teaching and learning approach and group of MPK. Result of data analysis also indicates that applying of CCTL approach can enhancing students' social skills is bigger than students conventional approach gets.

The results of difference test of enhancing students' social skills (N-gain) based on group of MPK and teaching and learning approach shows that there is a significance difference of enhancing students' social skills student between getting CCTL approach and getting CVTL approach. Enhancing of students' social skills getting CCTL approach is bigger than students getting CVTL approach. Based on subdividing MPK, there is difference enhancing of students' social skills from all group of MPK. The difference happened at student group of high and low MPK and student group of medium and low MPK. While enhancing of social skills at group of high MPK students are not significance difference.

In CCTL approach, students learn actively in group to discuss about solve of coastal area problem in worksheet. When students solve this coastal area problem, enthusiasm, attention, motivation of learning, and various knowledge of mathematics

owned applied in comparing notes, enquires, explains, analyses, forms mathematics model, finalizes mathematics model, answers problem, maintains answer, and does negotiation with others referring to the process and problem solving result obtained. This activity requires activity of mental to think in higher level. Using the real coastal area problem that viscid with everyday life of student has inspired interest of student to solve problem presented. Using the coastal area problem with various presentation models have also given challenge to student to break it in group or enquires to teacher when problem presented is not comprehended. Brenner (1998) is said by activity of discussion with teacher and peer, students has a good understanding about the basic concept of mathematics and be better a problem solver.

Activity of the student hardly differing from activity executed by student getting conventional approach. At study with conventional approach, student learn only based on guide and explanation of teacher as according to package book applied by school. Problem practices applied also hardly far from activity all day long student and unable to point student to applying of mathematics at student life. Student at more conventional class got knowledge from teacher than student looks for their selves knowledge of the mathematics from book, problem or enquires to teacher. In general condition of second class modeled this very far different and causes at enhancing difference of students' ability in social skills both group of student.

b. Enhancing students' social skills based on mathematical prior knowledge

Based on group of mathematical prior knowledge (MPK), difference of prior students' social skills at group of high MPK and group of middle MPK relatively small. Difference that is big relative happened at student group of low MPK. At this group, prior students' social skills getting CCTL approach is higher than student getting CVTL approach. However, after third group of getting study, there is a significance difference of students' social skills from all group of students between getting both CCTL and CVTL approach. Students' social skills getting CCTL approach is higher than compared with student getting CVTL approach. Result of this supported by average of enhancing

of students' social skills getting CCTL approach is bigger than getting CVTL approach from all group of MPK.

Result of analysis indicates that there is a significance differenced of enhancing students' social skills among all of students MPK group. Excelsior student' MPK gets, then excelsior also enhancing students' social skills. This thing means that to get enhancing high students' social skills, student must have high mathematical prior knowledge. Otherwise, although students' social skills is enhanced, but the enhancing is not too big, although still significance.

The research findings are pickings increasingly clarifies the importance of applying of coast-contextual teaching and learning (CCTL) to enhance students' social skills. Excelsior of school level and preliminary knowledge of mathematics students, hence excelsior would also enhancing of student' social skills. This result indicates inexistence of interaction between teaching and learning approach and MPK in enhancing of students' social skills.

CONCLUSION AND SUGGESTION

Conclusion

As according to research problem formula which has been told and based on at result and solution of research, hence concluded that result of test of enhancing of students' social skills indicates that using coast-contextual teaching and learning approach is more effectively applied than conventional approach to enhancing social skills of students' junior secondary school in coastal area either evaluated from learning approach and mathematical prior knowledge.

Suggestion

Based on this study conclusion it can be said some suggestions as follows.

a. Coast-contextual teaching and learning (CCTL) can serve the purpose of one of alternative approach to enhance social skills of students' junior secondary school in coastal area.

b. To apply CCTL approach, teacher must have the masters of presented problem in students worksheet and solving process so that easily can do tuition when student unable to comprehend problem and executes the problem finishing process.

c. Teacher must realize that the usage of coastal area problem in study with CCTL model is not only addressed to increase students' social skills but also to give students understanding and awareness about potency and various problems of coastal area potency that need to be preserved because of economic value.

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